UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/549,912	09/20/2005	Roberto Alvarez Arevalo	36-1925	4788

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EXAMINER
MCLEOD, MARSHALL M

ART UNIT	PAPER NUMBER
2157	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

	Application No.	Applicant(s)
Office Action Summary	10/549,912	ALVAREZ AREVALO ET AL.
	Examiner	Art Unit	
	MARSHALL MCLEOD	2157	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>22 April 2008</u>.

2a)☒ This action is **FINAL.**   2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>1-10</u> is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) <u>1-10</u> is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All b)☐ Some * c)☐ None of:

        1.☐ Certified copies of the priority documents have been received.

        2.☐ Certified copies of the priority documents have been received in Application No. _____.

        3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.

5)☐ Notice of Informal Patent Application

6)☐ Other: _____.

DETAILED ACTION

C Response to Amendment

1.   This Office action has been issued in response to amendment filed 22 April 2008.

Claims 1-10 are pending in this application. Applicants' arguments have been carefully and

respectfully considered in light of the instant amendment and are persuasive, as they relate to the

specification and claim objections and the claim rejections under 35 U.S.C. 101 and 112 second

paragraph. As such the examiner withdraws the specification and claim objections and the claim

rejections under 35 U.S.C. 101 and 112 second paragraph.

Priority

2.   Examiner acknowledges applicant's foreign priority based on United Kingdom

0306973.9 filed 3/26/2003.

Claim Rejections - 35 USC § 103

3.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in
> section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are
> such that the subject matter as a whole would have been obvious at the time the invention was made to a person
> having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the
> manner in which the invention was made.

4.   **Claims 1-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Aharoni**

et al. (Patent No US 6,014,694), hereinafter Aharoni, in view of Zhu et al. (Patent. No US

5534937), hereinafter Zhu.

5.   With respect to claim 1, Aharoni discloses A method of transmitting an encoded

sequence over a network to a terminal (Aharoni, Column 2, lines 16-20), comprising

   a.   storing a plurality of encoded versions of the same sequence (Aharoni, Column 2,

   lines 29-32), wherein each version comprises a plurality of discrete portions of data

   (Aharoni, Column 2, lines 32-39; i.e. discrete portions of data = subset of levels) and

   each version corresponds to a respective different degree of compression (Aharoni,

   Column 2, lines 20-21; i.e. different degree of compression = …the system adjusts the

   compression ratio);

   b.   transmitting a current one of said versions (Aharoni, Column 7, line 67, and

   continued through to Column 8, lines 1-3);

   c.   ascertaining the data rate permitted by the network (Aharoni, Column 11, lines

   30-37);

   d.   selecting one of said versions for transmission, in dependence on the results of

   said comparisons; and transmitting the selected version (Aharoni, Column 2, lines 60-61).

Aharoni does not disclose ascertaining the state of fullness of a receiving buffer at the terminal;

for at least one candidate version, computing in respect of at least one discrete portion thereof as

yet unsent the maximum value of current buffer fullness that would be needed to avoid buffer

underflow were any number of portions starting with that portion to be sent at the currently

ascertained permitted rate; comparing the determined maximum needed buffer fullness value(s)

with the current buffer fullness state.

However, Zhu discloses ascertaining the state of fullness of a receiving buffer at the terminal

(Column 3, lines 3-14; See Figure 2 also); for at least one candidate version, computing in

respect of at least one discrete portion thereof as yet unsent the maximum value of current buffer

fullness that would be needed to avoid buffer underflow were any number of portions starting

with that portion to be sent at the currently ascertained permitted rate (Column 3, lines 3-16);

comparing the determined maximum needed buffer fullness value(s) with the current buffer

fullness state (Column 3, lines 16-26).

It would have been obvious to a person having ordinary skill in the art at the time of the

invention to modify the teachings of Aharoni with the teachings of Zhu in order to have an

efficient stream selection system and increase the quality and reliability of stream transmissions.

6.   With respect to claim 2, Aharoni as modified discloses a method of transmitting an

encoded sequence over a network to a terminal (Aharoni, Column 2, lines 16-20), comprising

        e.   storing a plurality of encoded versions of the same sequence (Aharoni, Column 2,

        lines 29-32), wherein each version comprises a plurality of discrete portions of data

        (Aharoni, Column 2, lines 32-39; i.e. discrete portions of data = subset of levels) and

        each version corresponds to a respective different degree of compression (Aharoni,

Column 2, lines 20-21; i.e. different degree of compression = …the system adjusts the

compression ratio);

f.   were any number of portions starting with that portion to be sent at the respective

nominal rate (Aharoni, Column 17, lines 52-59);

g.   transmitting a current one of said versions (Aharoni, Column 7, line 67, and

continued through to Column 8, lines 1-3);

h.   ascertaining the data rate permitted by the network (Aharoni, Column 11, lines

30-37);

i.   selecting one of said versions for transmission, in dependence on the results of

said comparisons (Aharoni, Column 2, lines 60-61); and transmitting the selected version

(Aharoni, Column 2, lines 60-61).

Aharoni does not disclose that for each version and for each of a plurality of nominal

transmitting rates, computing in respect of at least one discrete portion thereof the maximum

value of current buffer fullness that would be needed to avoid receiving buffer underflow at the

terminal; storing said maximum needed buffer fullness values; ascertaining the state of fullness

of a receiving buffer at the terminal; for at least one candidate version, using the ascertained

permitted data rate and the stored maximum needed buffer fullness values to estimate a

respective maximum needed buffer fullness value corresponding to said ascertained permitted

data rate; comparing the estimated maximum needed buffer fullness values with the ascertained

buffer state.

However Zhu discloses that for each version and for each of a plurality of nominal transmitting

rates, computing in respect of at least one discrete portion thereof the maximum value of current

buffer fullness that would be needed to avoid receiving buffer underflow at the terminal (Zhu,

Column 3, lines 3-16); storing said maximum needed buffer fullness values (Zhu, Column 7,

lines 50-63); ascertaining the state of fullness of a receiving buffer at the terminal (Zhu, Column

3, lines 3-14; See Figure 2 also); for at least one candidate version, using the ascertained

permitted data rate and the stored maximum needed buffer fullness values to estimate a

respective maximum needed buffer fullness value corresponding to said ascertained permitted

data rate (Zhu, Column 3, lines 3-16); comparing the estimated maximum needed buffer fullness

values with the ascertained buffer state (Zhu, Column 3, lines 16-26);

It would have been obvious to a person having ordinary skill in the art at the time of the

invention to modify the teachings of Aharoni with the teachings of Zhu in order to have an

efficient stream selection system and increase the quality and reliability of stream transmissions.

7.   With respect to claim 3, it is rejected for the same reasons as claim 1 above. In addition

Aharoni as modified discloses wherein maximum needed buffer fullness determination is

performed (Zhu, Column 3, lines 3-14) only for selected ones of said portions at which a version

change is to be permitted (Aharoni, Column 9, lines 20-26).

8.   With respect to claim 4, it is rejected for the same reasons as claim 1 above. In addition

Aharoni as modified discloses in which each computed needed buffer fullness (Zhu, Column 4,

lines 32-41) is the difference between (a) the time needed to transmit, at the relevant rate, the

portion in question and zero or more consecutive subsequent portions up to and including any

particular portion (Aharoni, Column 2, lines 15-28), and (b) the difference between the playing

instant of the respective particular portion and the playing instant of the portion preceding the

portion in question (Aharoni, Column 17, lines 40-49).

9.   With respect to claim 5, it is rejected for the same reasons as claim 1 above. In addition

Aharoni as modified discloses in which the sequence is a video sequence (Aharoni, Column 17,

lines 40-49).

10.   With respect to claim 6, it is rejected for the same reasons as claim 1 above. In addition

Aharoni as modified discloses in which the sequence is an audio sequence (Aharoni, Column 18,

lines 36-37; i.e. AVI can just be an audio sequence).

11.   With respect to claim 7, Aharoni discloses a storage medium for storing a video

recording (Aharoni, Column 7, lines 49-55), comprising

        j.   a plurality of encoded versions of the same sequence (Aharoni, Column 2, lines

        29-32), wherein each version comprises a plurality of discrete portions of data (Aharoni,

        Column 2, lines 32-39; i.e. discrete portions of data = subset of levels) and each version

        corresponds to a respective different degree of compression (Aharoni, Column 2, lines

        20-21; i.e. different degree of compression = …the system adjusts the compression ratio);

     k.   and that would occur were that portion to be sent at the respective nominal rate

(Aharoni, Column 17, lines 52-59);

     l.   that would occur were that portion and any number of subsequent portions

subsequent thereto to be sent at the respective nominal rate (Aharoni, Column 17, lines

52-59).

Aharoni does not disclose for each discrete portion of each version and for each of a plurality of

nominal transmitting rates, a maximum value of current buffer fullness for that portion, being the

maximum of (a) the value needed to avoid buffer underflow.

However, Zhu discloses for each discrete portion of each version and for each of a plurality of

nominal transmitting rates, a maximum value of current buffer fullness for that portion, being the

maximum of (a) the value needed to avoid buffer underflow (Zhu, Column 3, lines 3-16).

It would have been obvious to a person having ordinary skill in the art at the time of the

invention to modify the teachings of Aharoni with the teachings of Zhu in order to have an

efficient stream selection system and increase the quality and reliability of stream transmissions.

12.   With respect to claim 8, Aharoni discloses storage medium for storing an audio recording

stored (Aharoni, Column 7, lines 49-55), comprising

     m.   a plurality of encoded versions of the same sequence (Aharoni, Column 2, lines

29-32), wherein each version comprises a plurality of discrete portions of data (Aharoni,

Column 2, lines 32-39; i.e. discrete portions of data = subset of levels) and each version

corresponds to a respective different degree of compression (Aharoni, Column 2, lines

20-21; i.e. different degree of compression = …the system adjusts the compression ratio);

n.   and that would occur were that portion to be sent at the respective nominal rate

(Aharoni, Column 17, lines 52-59);

o.   that would occur were that portion and any number of subsequent portions

subsequent thereto to be sent at the respective nominal rate (Aharoni, Column 17, lines

52-59).

Aharoni does not disclose for each discrete portion of each version and for each of a plurality of

nominal transmitting rates, a maximum value of current buffer fullness for that portion, being the

maximum of (a) the value needed to avoid buffer underflow.

However, Zhu discloses for each discrete portion of each version and for each of a plurality of

nominal transmitting rates, a maximum value of current buffer fullness for that portion, being the

maximum of (a) the value needed to avoid buffer underflow (Zhu, Column 3, lines 3-16).

It would have been obvious to a person having ordinary skill in the art at the time of the

invention to modify the teachings of Aharoni with the teachings of Zhu in order to have an

efficient stream selection system and increase the quality and reliability of stream transmissions.

13.   With respect to claim 9, Aharoni discloses a store (Aharoni, Column 16, lines 50-60; i.e.

store = database) storing a plurality of encoded versions of the same sequence (Aharoni, Column

2, lines 29-32), wherein each version comprises a plurality of discrete portions of data (Aharoni,

Column 2, lines 32-39; i.e. discrete portions of data = subset of levels) and each version corresponds to a respective different degree of compression (Aharoni, Column 2, lines 20-21; i.e. different degree of compression = …the system adjusts the compression ratio);

       p.   a transmitter (Aharoni, Column 17, lines 19-21); and

       q.   control means operable to receive data as to the data rate permitted by the network and data as to the state of fullness of a receiving buffer at the terminal (Aharoni, Column 3, lines 65-67 continued through to Column 4, lines 1-7).

       r.   select one of said versions for transmission, in dependence on the results of said comparisons (Aharoni, Column 2, lines 60-61).

Aharoni does not disclose for at least one candidate version, compute in respect of at least one discrete portion thereof as yet unsent the maximum value of current buffer fullness that would be needed to avoid buffer underflow were any number of portions starting with that portion to be sent at the permitted rate, to compare the determined maximum needed buffer fullness value(s) with the current buffer fullness state.

However, Zhu discloses for at least one candidate version, compute in respect of at least one discrete portion thereof as yet unsent the maximum value of current buffer fullness that would be needed to avoid buffer underflow were any number of portions starting with that portion to be sent at the permitted rate (Column 3, lines 3-16), to compare the determined maximum needed buffer fullness value(s) with the current buffer fullness state (Column 3, lines 16-26).

It would have been obvious to a person having ordinary skill in the art at the time of the

invention to modify the teachings of Aharoni with the teachings of Zhu in order to have an

efficient stream selection system and increase the quality and reliability of stream transmissions.

14.   With respect to claim 10, Aharoni as modified discloses a store (Aharoni, Column 16,

lines 50-60; i.e. store = database) storing a plurality of encoded versions of the same sequence

(Aharoni, Column 2, lines 29-32), wherein each version comprises a plurality of discrete portions

of data (Aharoni, Column 2, lines 32-39; i.e. discrete portions of data = subset of levels) and

each version corresponds to a respective different degree of compression (Aharoni, Column 2,

lines 20-21; i.e. different degree of compression = …the system adjusts the compression ratio),

were any number of portions starting with that portion to be sent at the respective nominal rate

(Aharoni, Column 17, lines 52-59);

> s.   a transmitter (Aharoni, Column 17, lines 19-21); and

> t.   control means for receiving data as to the data rate permitted by the network and
> data as to the state of fullness of a receiving buffer at the terminal (Aharoni, Column 3,
> lines 65-67 continued through to Column 4, lines 1-7).

> u.   select one of said versions for transmission, in dependence on the results of said
> comparisons (Aharoni, Column 2, lines 60-61).

Aharoni does not disclose for each version including, for each of a plurality of nominal

transmitting rates, computing in respect of at least one discrete portion thereof the maximum

value of current buffer fullness that would be needed to avoid receiving buffer underflow at the terminal; for at least one candidate version, to use the permitted data rate and the stored maximum needed buffer fullness values to estimate a respective maximum needed buffer fullness value corresponding to said permitted data rate, to compare the estimated maximum needed buffer fullness values(s) with the buffer fullness state.

However Zhu discloses that for each version including, for each of a plurality of nominal transmitting rates, computing in respect of at least one discrete portion thereof the maximum value of current buffer fullness that would be needed to avoid receiving buffer underflow at the terminal (Zhu, Column 3, lines 3-16); for at least one candidate version, to use the permitted data rate and the stored maximum needed buffer fullness values to estimate a respective maximum needed buffer fullness value corresponding to said permitted data rate (Column 3, lines 3-16), to compare the estimated maximum needed buffer fullness values(s) with the buffer fullness state (Column 3, lines 16-26).

It would have been obvious to a person having ordinary skill in the art at the time of the invention to modify the teachings of Aharoni with the teachings of Zhu in order to have an efficient stream selection system and increase the quality and reliability of stream transmissions.

Response to Arguments

16.   Applicant's arguments with respect to claims 1-10 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this

Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a).

Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE

MONTHS from the mailing date of this action. In the event a first reply is filed within TWO

MONTHS of the mailing date of this final action and the advisory action is not mailed until after

the end of the THREE-MONTH shortened statutory period, then the shortened statutory period

will expire on the date the advisory action is mailed, and any extension fee pursuant to 37

CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

however, will the statutory period for reply expire later than SIX MONTHS from the date of this

final action.

Any inquiry concerning this communication or earlier communications from the

examiner should be directed to MARSHALL MCLEOD whose telephone number is (571)270-

3808. The examiner can normally be reached on Monday - Thursday 6:30 a.m-4:00 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Ario Etienne can be reached on (571) 272-4001. The fax phone number for the

organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent

Application Information Retrieval (PAIR) system. Status information for published applications

may be obtained from either Private PAIR or Public PAIR. Status information for unpublished

applications is available through Private PAIR only. For more information about the PAIR

system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR

system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would

like assistance from a USPTO Customer Service Representative or access to the automated

information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Marshall McLeod

/Ario Etienne/
Supervisory Patent Examiner, Art Unit 2157